

USP4 Antibody (Center) Blocking Peptide
Synthetic peptide
Catalog # BP2133c**Specification**

USP4 Antibody (Center) Blocking Peptide - Product Information

Primary Accession [O13107](#)
Other Accession [UBP4_HUMAN](#)

USP4 Antibody (Center) Blocking Peptide - Additional Information

Gene ID 7375

Other Names

Ubiquitin carboxyl-terminal hydrolase 4, Deubiquitinating enzyme 4, Ubiquitin thioesterase 4, Ubiquitin-specific-processing protease 4, Ubiquitous nuclear protein homolog, USP4, UNP, UNPH

Target/Specificity

The synthetic peptide sequence used to generate the antibody [AP2133c](/product/products/AP2133c) was selected from the Center region of human USP4. A 10 to 100 fold molar excess to antibody is recommended. Precise conditions should be optimized for a particular assay.

Format

Peptides are lyophilized in a solid powder format. Peptides can be reconstituted in solution using the appropriate buffer as needed.

Storage

Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C.

Precautions

This product is for research use only. Not for use in diagnostic or therapeutic procedures.

USP4 Antibody (Center) Blocking Peptide - Protein Information

Name USP4 {ECO:0000303|PubMed:30514904, ECO:0000312|HGNC:HGNC:12627}

Function

Deubiquitinating enzyme that removes conjugated ubiquitin from target proteins (PubMed:[16316627](http://www.uniprot.org/citations/16316627), PubMed:[16472766](http://www.uniprot.org/citations/16472766), PubMed:[16339847](http://www.uniprot.org/citations/16339847), PubMed:[20595234](http://www.uniprot.org/citations/20595234), PubMed:[22347420](http://www.uniprot.org/citations/22347420), PubMed:[25404403](http://www.uniprot.org/citations/25404403), PubMed:[28604766](http://www.uniprot.org/citations/28604766), PubMed:[30514904](http://www.uniprot.org/citations/30514904)). Deubiquitinates PDPK1 (PubMed:[22347420](http://www.uniprot.org/citations/22347420))

target="_blank">22347420). Deubiquitinates TRIM21 (PubMed:16316627). Deubiquitinates receptor ADORA2A which increases the amount of functional receptor at the cell surface (PubMed:16339847). Deubiquitinates HAS2 (PubMed:28604766). Deubiquitinates RHEB in response to EGF signaling, promoting mTORC1 signaling (PubMed:30514904). May regulate mRNA splicing through deubiquitination of the U4 spliceosomal protein PRPF3 (PubMed:20595234). This may prevent its recognition by the U5 component PRPF8 thereby destabilizing interactions within the U4/U6.U5 snRNP (PubMed:20595234). May also play a role in the regulation of quality control in the ER (PubMed:16339847).

Cellular Location

Cytoplasm. Nucleus. Note=Shuttles between the nucleus and cytoplasm. Exported to the cytoplasm in a CRM1-dependent manner and recycled back to the nucleus via the importin alpha/beta heterodimeric import receptor. The relative amounts found in the nucleus and cytoplasm vary according to the cell type

Tissue Location

Overexpressed in small cell tumors and adenocarcinomas of the lung compared to wild-type lung (at protein level). Expressed in the hippocampal neurons

USP4 Antibody (Center) Blocking Peptide - Protocols

Provided below are standard protocols that you may find useful for product applications.

- [Blocking Peptides](#)

USP4 Antibody (Center) Blocking Peptide - Images

USP4 Antibody (Center) Blocking Peptide - Background

Modification of target proteins by ubiquitin participates in a wide array of biological functions. Proteins destined for degradation or processing via the 26 S proteasome are coupled to multiple copies of ubiquitin. However, attachment of ubiquitin or ubiquitin-related molecules may also result in changes in subcellular distribution or modification of protein activity. An additional level of ubiquitin regulation, deubiquitination, is catalyzed by proteases called deubiquitinating enzymes, which fall into four distinct families. Ubiquitin C-terminal hydrolases, ubiquitin-specific processing proteases (USPs),¹ OTU-domain ubiquitin-aldehyde-binding proteins, and Jab1/Pad1/MPN-domain-containing metallo-enzymes. Among these four families, USPs represent the most widespread and represented deubiquitinating enzymes across evolution. USPs tend to release ubiquitin from a conjugated protein. They display similar catalytic domains containing conserved Cys and His boxes but divergent N-terminal and occasionally C-terminal extensions, which are thought to function in substrate recognition, subcellular localization, and protein-protein interactions.

USP4 Antibody (Center) Blocking Peptide - References

Frederick, A., et al., Oncogene 16(2):153-165 (1998). Gray, D.A., et al., Oncogene 10(11):2179-2183 (1995).